

REMARKS

Claims 1-3, 5-8, 10, and 12-27 are pending in this application. By this Amendment, claims 1, 2, 5, 14-15, 22 and 24-26 are amended, claims 4, 9, and 11 are canceled, and claim 27 is added. No new matter is added.

Applicant appreciates the courtesies shown to Applicant's representative by Examiner Sked in the September 13, 2005 personal interview. Applicant's separate record of the substance of the interview is incorporated into the following remarks.

The Office Action rejects claim 24 under 35 U.S.C. §112, first paragraph. Claim 24 is amended consistent with the proposal discussed during the September 13 personal interview, which was indicated by the Examiner to overcome the rejection. Withdrawal of the rejection is respectfully requested.

The Office Action rejects claims 9, 11 and 24 under 35 U.S.C. §112, second paragraph. This rejection is respectfully traversed. Claims 9 and 11 are canceled. Accordingly the rejection of these claims is moot. Regarding claim 24, the Examiner agreed during the September 13 interview that the changes made to claim 24 would overcome the rejection. Withdrawal of the rejection is respectfully requested.

The Office Action rejects claims 1, 3, 4, 6, 14, 16, 17, 19, 25 and 26 under 35 U.S.C. §102(e) over U.S. Patent No. 6,789,057 to Morimoto. Additionally, the Office Action rejects claims 12, 13 and 21 (presumably claims 21-23) under 35 U.S.C. §103(a) over Morimoto. These rejections are respectfully traversed.

Independent claims 1 and 25 are revised to clarify aspects of the invention to include the various arrays outlined in Applicant's Fig. 2 and associated disclosure. With this encoding technique, a compact representation is provided that allows fast access to frequency data, does not decrease the level of linguistic quality, and can operate on large lists of n -grams

with only a typical amount of main memory (see pg. 4, lines 4-18). By arranging the arrays in blocks of data corresponding to the same character strings and indexing to the blocks, retrieval efficiencies can be achieved (see pg. 10, line 12 to pg. 11, line 3).

In making the rejection, the Patent Office relies on Fig. 13 and C11/L49-60 for a table representing a bi-gram. However, this bi-gram table fails to teach: (1) creating a frequency array f , $n-1$ pointer arrays, and n offset positional arrays; (2) storing frequency data of each set in an array corresponding to a first character string of an n -gram; (3) grouping the frequencies relating to n -grams that have the same first character string into a block; (4) grouping pointers relating to n -grams that have the same second character string together as a block; (5) storing an offset position for each respective first character string in positional array r_1 that indexes to the corresponding block in frequency array f relating to the first character string; or (6) storing an offset position for each respective second character string in positional array r_2 that indexes to the corresponding block in pointer array p_2 relating to the second character string.

Because each and every feature of independent claims 1 and 25 are not found in Morimoto, these claims and claims dependent therefrom are not anticipated by Morimoto. Moreover, there is no teaching or suggestion in Morimoto that would have enabled one of ordinary skill in the art to have modified Morimoto to derive the claimed invention. Accordingly, these claims are also not obvious in view of Morimoto. Withdrawal of the rejections is respectfully requested.

The Office Action rejects claims 2, 5, 7-11, 15, 18, 20 and 18 (presumably claims 21-23) under 35 U.S.C. §103(a) over Morimoto in view of U.S. Patent No. 5,724,593 to Hargrave. This rejection is respectfully traversed.

Morimoto is discussed above. Hargrave fails to overcome the deficiencies of Morimoto with respect to independent claims 1 and 25. Moreover, aspects of Hargrave teach

against the alleged combination. Therefore, when read as a whole, there is no teaching or suggestion for the combination. For example, the Office Action admits that Hargrave provides an ID for each n -gram. This, if anything, teaches against mapping a unique ID to each character string of the n -gram and defining the n -gram through multiple arrays and pointers.

Accordingly, dependent claims 2, 3, 7, 8, 10, 13, 18 and 20-24 are deemed allowable for their dependence on allowable base claim 1 and for the additional features recited there. Withdrawal of the rejection is respectfully requested.

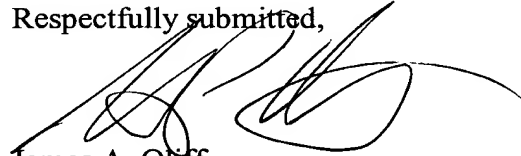
New independent claim 27 is directed to a method of encoding linguistic frequency data for a n -gram of at least three successive character strings. Frequency data for the n -gram is stored in an array corresponding to the first character string of the n -gram. Moreover, multiple pointers in the i^{th} pointer memory array p_i point to the same memory position within memory array p_{i-1} and only one chain of memory positions within $f, p_2 \dots p_n$ uniquely defines each n -gram. See Applicant's pg. 9, line 17 to pg. 10, line 11. With this, the information stored in the arrays can be used multiple times, resulting in a more compact encoding.

Morimoto's disclosure relates to only a bi-gram and stores frequency data for the bi-gram in a memory associated with a second character string while frequency data for an individual first string is stored in a memory associated with the first character string. Thus, Morimoto fails to disclose storage of frequency data for a 3-character n -gram in association with a first character string of the n -gram. Moreover, multiple pointers do not point to the same intermediate memory array as claimed. Hargrave fails to overcome such deficiencies. Accordingly, claim 27 is deemed allowable.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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